No. 9900340

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Agricultural Research Programs Purdue University

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'Goldfield'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-fourth day of April, in the year of our Lord two thousand one.

Attest:

Alan R. Post

Acting Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. Include form number and date on all reproductions

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1 NAME OF OWNER
Agricultural Research Programs
Purdue University

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
P891181RC1-9-3-3

3. VARIETY NAME
Goldfield

4 ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
1140 Ag Administration Bldg.
West Lafayette, IN 47907-1140

5. TELEPHONE *(include area code)*
765-494-8363

6. FAX *(include area code)*
765-494-0808

FOR OFFICIAL USE ONLY

PVPO NUMBER
9900340

FILING DATE
June 18, 1999

7 IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
University

8. IF INCORPORATED, GIVE STATE OF INCORPORATION
IN

9. DATE OF INCORPORATION
1889

10 NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*
Eldon E. Ortman
Associate Director
Agricultural Research Programs
Purdue University
1140 Ag Administration Bldg.
West Lafayette, IN 47907-1140

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 2450.00 XF
DATE 6/18/99

CERTIFICATION FEE:
$ 320
DATE 4/2/01

11. TELEPHONE *(Include area code)*
765-494-8363

12. FAX *(Include area code)*
765-494-0808

13. E_MAIL
eeo@aes.purdue.edu

14. CROP KIND *(Common Name)*
Wheat

15 GENUS AND SPECIES NAME OF CROP
Triticum aestivum

16. FAMILY NAME *(Botanical)*
Gramineae

17. IS THE VARIETY A FIRST GENERATION HYBRID?
☐ YES ☐ NO

18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)

a. ☒ Exhibit A. Origin and Breeding History of the Variety
b. ☒ Exhibit B. Statement of Distinctness
c. ☒ Exhibit C. Objective Description of Variety
d. ☒ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☒ Exhibit E. Statement of the Basis of the Owner's Ownership
f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☒ Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *See Section 83(a) of the Plant Variety Protection Act)*
☒ YES *(If "yes", answer items 20 and 21 below)* ☐ NO *(If "no," go to item 22)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☒ YES ☐ NO

21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☒ FOUNDATION ☐ REGISTERED ☒ CERTIFIED

22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☐ YES ☒ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☒ NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER		SIGNATURE OF OWNER	
Eldon Ortman			
NAME *(Please print or type)*		NAME *(Please print or type)*	
Eldon E. Ortman for Agricultural Research Programs			
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
Associate Director			

13A. Exhibit A. Origin and Breeding History of Goldfield

'Goldfield' (PI number will be supplied as soon as it is assigned at the National Seed Storage Laboratory, Ft. Collins, CO) had the temporary name P89118RC1-9-3-3 during testing. Goldfield resulted from the cross: 'INW9241'/3/'Auburn'//'Caldwell'/'Sullivan'/4/'Clark'. Goldfield was released for its low incidence of Fusarium head blight (FHB) also called scab, caused by *Fusarium graminearum* Schwabe, winterhardiness, and moderate resistance to glume blotch, caused by *Stagonospora nodbrum* (Berk.) and Septoria leaf blotch, caused by *Septoria tritici* Roberge in Desmaz., and very good soft wheat milling and baking qualities. Goldfield is named for its healthy bright straw at harvest, likely due to its resistance to leaf and glume blotches. The parent line, INW9241, is very winterhardy, its heading date is similar to that of Caldwell, it has resistance to leaf rust, leaf blotch, and soil borne wheat mosaic virus, and has very good soft wheat milling and baking qualities. The parentage of INW9241 is Auburn/9/'Monon'/Bruehl 236/6/'Arthur 71'/5/'Arthur'/ Agatha/4/'Beau'/3 /Arthur* 2//'Riley'*3/Bulgaria 88/7/Beau//'Siete Cerros'/Arthur/8/ Beau/Caldwell.

Goldfield was developed by a modified pedigree breeding method with plant selections made in F_2, F_3, F_4 and F_5 generations. F1 plants of the cross 89118RC1 were harvested in bulk (without selection) in 1989 because the seedlings were transplanted to the field, thus were grown in a nonrepresentative environment. Selection in the F2 generation in 1990 was for plant height, early maturity, and resistance to leaf rust and leaf blotch. Selection in the F3 generation in 1991 (F2 plant progeny rows) was for plant height, early maturity, strong straw, and resistance to leaf rust, leaf blotch and glume blotch. Selection in the F4 generation in 1992 (F3 plant progeny rows) was for winter hardiness, leaf blotch, and glume blotch. Selection in the F5 generation in 1993 was for low incidence to Fusarium and glume blotch. In each generation several progeny rows (lines) were grown that had been selected from several to many parent plants in the previous generation. Seed from the F5 progeny row (F6 generation in 1994) was harvested without selection within the family (row) and entered in yield nurseries beginning in 1995. Thus, Goldfield is the selfed progeny of an F_5 plant selected in 1993. Goldfield was evaluated in head row nurseries annually since 1994 and in yield performance nurseries in Indiana annually since 1995, in the Uniform Advanced 5-State (Kentucky, Illinois, Missouri, Ohio, and Indiana) Soft Red Winter Wheat Nursery in 1997, and in the Uniform Eastern Soft Red Winter Wheat Nursery in 1998. Breeder seed produced in 1998 was the F_{11} generation, which was seeded in fall 1998 to produce foundation seed in 1999. Resistance of Goldfield to various diseases, winter hardiness, grain yield, milling and baking qualities, were verified in specific tests since 1995, but not in every test. For example, there was differential winter kill among wheat entries in tests in Indiana in 1995 and 1996, but not in other years. There were epidemics of glume blotch in 1994, 1997 and 1998, but tests were not as definitive in other years.

Goldfield, the progeny of an F5 plant, has been uniform in tests since 1995, (at least five generations) for plant height, plant maturity, various morphologic characters described in Exhibit C, and resistance to leaf rust and leaf blotch. No obvious off-types have been observed for quantitative traits including yield, winter hardiness, and resistance to Fusarium, glume blotch and soil borne wheat mosaic virus; traits for which it is difficult to identify single variants. Seed of Goldfield was increased from seed harvested from a yield performance nursery. Thus, variants may have been introduced during several years of performance testing. Variants were rogued from seed increase fields of Goldfield, but Goldfield may contain up to 0.3% variants including plants with brown gulmes and/or awns. Breeder seed of Goldfield is maintained by Purdue University Agricultural Research Programs.

13B. Exhibit B. Novelty Statement

Goldfield is most similar to Patterson in plant type. However, auricles of Goldfield have anthocyanin; those of Patterson do not have anthocyanin. Seed color, phenol reaction, of Goldfield is fawn; that of Patterson is medium brown.

13C. Exhibit C. Objective Description of Goldfield.

Plant color of Goldfield is green at booting, anthers are yellow. The stem does not have anthocyanin and has a waxy bloom. Stem internodes are hollow and hairs of the last internode are absent. Auricles have anthocyanin and hairs are absent. The flag leaf is erect, not twisted, has a waxy bloom, and hairs are absent. Spikes are medium lax, oblong, apically awnleted, and yellow at maturity. Glumes at maturity are medium in length and width, shoulders are square and beaks are obtuse. Seeds are ovate, cheeks are rounded; the brush is medium long and not collared. The coleoptile is white and seedling anthocyanin is absent. Juvenile plant growth is semi-erect. Goldfield may contain up to 0.3% variants including plants with brown glumes and/or awns.

1860098

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
COMMODITIES SCIENTIFIC SUPPORT DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)
Director, Purdue University
Agricultural Research Programs
West Lafayette, IN 47907

FOR OFFICIAL USE ONLY
PVPO NUMBER 9900340

VARIETY NAME OR TEMPORARY DESIGNATION
Goldfield

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. KIND:
[1] 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:
[2] 1 = SPRING 2 = WINTER 3 = OTHER (*Specify*) _____
[1] 1 = SOFT 2 = HARD 3 = OTHER (*Specify*) _____
[2] 1 = WHITE 2 = RED 3 = OTHER (*Specify*) _____

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:
[2][3][0] FIRST FLOWERING
[2][3][4] LAST FLOWERING

4. MATURITY (*50% Flowering*):
[ ][ ] NO. OF DAYS *EARLIER* THAN .....
[0][1] NO. OF DAYS *LATER* THAN .....
[1] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

5. PLANT HEIGHT (*From soil level to top of head*):
[ ][9][9] CM. HIGH
[0][5] CM. TALLER THAN .....
[ ][ ] CM. SHORTER THAN .....
[1] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

6. PLANT COLOR AT BOOTING (*See reverse*):
[2] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHER COLOR:
[1] 1 = YELLOW 2 = PURPLE

8. STEM:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[2] Waxy bloom: 1 = ABSENT 2 = PRESENT
[1] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT
[1] Internodes: 1 = HOLLOW 2 = SOLID
[0][5] NO. OF NODES (*Originating from node above ground*)
[2][6] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:
[2] Anthocyanin: 1 = ABSENT 2 = PRESENT
[1] Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:
[1] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (*Specify*): _____
[1] Flag leaf: 1 = NOT TWISTED 2 = TWISTED
[1] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT
[2] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
[1][0] MM. LEAF WIDTH (*First leaf below flag leaf*)
[1][9] CM. LEAF LENGTH (*First leaf below flag leaf*):

5

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11. HEAD:

[1] Density: 1 = LAX 2 = DENSE

[1] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) _____

[2] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

2 [X] Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

mod 30-99 [0][8] CM. LENGTH

[1][3] MM. WIDTH

12. GLUMES AT MATURITY:

[2] Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.)

[2] Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

[2] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[2] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR: (5% have purple tinge)

[1] 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

[2] 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

[2] 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

[1] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[3] Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

[1] Brush: 1 = NOT COLLARED 2 = COLLARED

[2] Phenol reaction (See Instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

[3] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

[0][6] MM. LENGTH [0][3] MM. WIDTH [3][5] GM. PER 1000 SEEDS

17. SEED CREASE:

[2] Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

[2] Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] STEM RUST (Races) _____

[R] LEAF RUST (Races) Prevalent in Indiana

[0] STRIPE RUST (Races) _____

[0] LOOSE SMUT

[2] POWDERY MILDEW

[0] BUNT

[ ] OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] SAWFLY

[0] APHID (Bydv.)

[0] GREEN BUG

[R] CEREAL LEAF BEETLE

[ ] OTHER (Specify) _____

HESSIAN FLY RACES: [R] GP [R] A [R] B [0] C [R] D [0] E [0] F [ ] G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Patterson	Seed size	Patterson
Leaf size	Patterson	Seed shape	Patterson
Leaf color	Patterson	Coleoptile elongation	Patterson
Leaf carriage	Patterson	Seedling pigmentation	--

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.

(b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

13D. Exhibit D. Additional Description of the Variety

Grain yield of Goldfield has been similar to that of Patterson and other current cultivars under conditions of little or no FHB infection and somewhat higher than other cultivars under moderate to high severity of FHB infection (Tables 1 and 2). Typically, the percentage of spikes of Goldfield that are diseased with FHB is one-fifth that of Patterson, 5% for Goldfield compared to 26% for Patterson ($LSD_{0.05} = 11.6$) averaged over eight year-location tests in Indiana (Table 3).

Goldfield commonly heads 3 days later than Patterson in Indiana and is 1 inch taller than Patterson (Table1). Like Patterson, Goldfield excels in winterhardiness and has very good soft wheat milling and baking qualities (Table 1). In addition to its resistance to *S. nodorum* and *S. tritici* (Table 4), Goldfield has moderate resistance to several important diseases including leaf rust, caused by *Puccinia recondita* Roberge ex Desmaz., powdery mildew, caused by *Blumaria graminis* DC. E.O. Speer, soil borne wheat mosaic virus, wheat yellow mosaic virus, and take-all, caused by *Gaeumannomyces graminis* (Sacc.). Goldfield is susceptible to biotype L of Hessian fly, currently predominant in Indiana.

Table 1. Performance of wheat cultivars at Lafayette, Indiana, 1994-1998.

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Cultivar	Yield	T.W.	Headed	Lodging	Plant height	Winter Survival	M[1]	B[1]
	bu/a	lb/bu	May	0-9[2]	in.	%[3]		
1994 (No scab)								
Goldfield	98.9	59.8	22	3	39			
Caldwell	97.7	59.3	22	3	36			
Patterson	107.2	58.6	19	4	38			
Clark	96.4	57.7	19	2	37			
Cardinal	100.2	59.3	24	3	37			
Pioneer 2548	100.9	58.1	24	3	33			
LSD .05	10.5							
CV %	8.2							
1995 (Significant scab)								
Goldfield	73.3	58.5	20	4	40			
Caldwell	54.8	56.1	19	3	36			
Patterson	65.3	57.9	17	5	38			
Clark	50.3	55.6	17	3	36			
Cardinal	60.6	55.7	24	3	43			
Kaskaskia	75.1	59.7	22	6	43			
Pioneer 2548	69.3	55.2	21	3	36			
LSD .05	9.1							
CV %	10.0							
1996 (Significant winterkill and scab)								
Goldfield	58.1	61.3	25	4	33	87	98B	91C
Caldwell	45.1	53.0	24	4	33	20	102A	105A
Patterson	59.6	59.0	22	4	31	90	100A	100A
Clark	28.0	51.0	22	3	29	15	94C	93C
Cardinal	37.1	53.7	27	5	35	22		
Ernie	33.6	56.3	23	3	23	7		
Kaskaskia	59.3	56.8	25	5	38	65		
Pioneer 2548	45.3	57.1	27	3	30	30		
Pioneer 2552	51.5	54.7	27	3	32	40		
LSD .05	11.1							
CV %	14.7							
1997 (Low to moderate scab)								
Goldfield	84.0	59.3	26	4.5	42	100	99B	92C
Caldwell	61.9	55.6	25	4.0	39	80	100A	100A
Patterson	91.2	58.9	23	5.0	41	100	99B	100A
Clark	66.9	57.2	22	3.5	40	80	91C	90C
Cardinal	71.4	54.9	28	5.0	43	80	103A	94C
Ernie	72.9	56.9	24	7.0	35	60	94C	94C
Pioneer 2552	95.0	57.5	26	4.0	39	95	101A	91C
LSD .05	9.6							
CV %	8.9							
1998 (No scab)								
Goldfield	75.4	61.1	11	4	42			
Caldwell	68.3	60.4	10	4	39			
Patterson	78.7	61.3	8	5	41			
Clark	73.5	59.6	8	3	40			
Cardinal	75.5	60.7	12	4	41			
Ernie	76.6	58.7	8	8	37			
Kaskaskia	83.7	62.1	10	5	43			
Pioneer 2548	83.8	61.2	10	4	39			
Pioneer 2552	79.9	60.7	10	4	39			
LSD .05	7.6							
CV %	7.8							

[1] Milling (M) and Baking (B) scores were determined at the USDA-ARS, Soft Wheat Quality Laboratory, Wooster, OH. Quality categories A through C are acceptable.

[2] 0 = no lodging to 9 = severe lodging.

[3] Percentage of plants that survived.

Table 2. Yield of wheat lines in the Uniform 5-State Soft Red Winter Wheat nursery, 1997.[1]

Location	Cultivar					
	Goldfield	Ernie	Foster	Hopewell	Howell	Patterson
	bu/a					
Schochoh, KY	61.1	49.5	61.7	47.4	52.6	57.1
Lexington, KY	--	47.6	52.3	53.0	47.2	54.5
Brownstown, IL	46.4	41.7	60.3	65.8	59.7	61.7
Urbana, IL	76.9	90.9	99.6	77.4	85.9	89.2
Columbia, MO	68.1	64.9	75.2	67.1	60.7	72.4
Portageville, MO	59.0	54.1	73.9	58.2	60.2	54.2
Lafayette, IN	81.7	73.6	76.9	69.8	66.7	87.9

Table 3. Incidence of Fusarium head blight (FHB) in wheat cultivars in eight tests involving 5 locations and 4 years in Indiana, 1995-1998.

	1995		1996		1997		1996		1996		1997		1997		1998	
	----------Lafayette, IN----------						Fort Wayne, IN		Woodburn, IN		Atlanta, IN		----------Sullivan, IN----------			
Cultivar	Date headed	FHB Inc[1]	Date headed	FHB Inc[1]	Date headed	FHB inc[1]	Date headed	FHB inc[1]	Date headed	FHB inc[1]	Date headed	FHB inc[1]	Date headed	FHB inc[1]	Date headed	FHB inc[1]
	May	%	May	%	May	%	May/June	%	May/June	%	May	%	May	%	May	%
Goldfield	19	1.0	25	15	25	4.0	31	7	30	5	25	7.3	14	2.5	5	1.5
Caldwell	19	7.0	24	50	25	10.5							13	12.5	4	10.0
Patterson	17	11.3	22	50	23	14.0	29	30	28	40	24	35.0	11	15.0	2	13.5
Clark	17	15.0	22	40	22	17.5					23	31.7	10	15.0	1	20.0
Cardinal	23	7.0	27	25	28	10.5	5	20	3	40						
Ernie			23	15	23	7.0					24	21.7	11	3.5	1	8.5
Kaskaskia					26	8.0										
Pioneer 2548	21	1.6	27	15	26		2	15	2	30						
Pioneer 2552			27	15	27		3	20	2	30			14	10.0		
No. replicates		2		2		2		1		1		3		2		2
LSD .05		3.2		8.1		3.1						7.1		3.3		3.5
CV %		23.3		6.5		19.5						23.5		4.7		9.1

[1] Percentage of spikes in plot that were diseased.

Table 4. Diseases on wheat cultivars at Lafayette, Indiana.

	Septoria		Powdery				Leaf
	Leaves[1]	Glumes[2]	mildew	SBM[3]	TA[4]	WYM[5]	rust[6]
	0-9[7]						
1995							
Goldfield			2	2			
Caldwell			5	5			
Patterson			2	2			
Clark			2	2			
Cardinal			7	7			
Pioneer 2548			7	7			
1997							
Goldfield	4.0	3.5	2	2	0.5	2	Tr S
Caldwell	6.5	6.0	2	5	4.0	6	Tr S
Patterson	6.5	5.5	5	3	3.0	2	3 S
Clark	6.5	5.5	2	2	1.0	3	5 S
Cardinal	6.0	4.0	2	6	3.5	3	5 S
Ernie	7.0	4.5	8	4	2.5	6	25 S
Kaskaskia	7.5	3.5	6	--	--	5	--
Pioneer 2548	5.0	3.5	0	--	--	7	--
Pioneer 2552	4.0	2.5	0	--	3.0	2	Tr S
1998							
Goldfield	6	2			2.0		Tr MR
Caldwell	8	4			4.0		2 MS
Patterson	8	3.5			3.5		5 MS
Clark	8	3			3.5		5 S
Cardinal	7	3			6.0		5 S
Ernie	8	3			7.0		10 S
Kaskaskia	8	2			6.5		Tr S
Pioneer 2548	8	3			7.5		2 S
Pioneer 2552	6	2			2.5		0

[1] Leaf blotch caused by Septoria tritici, and Stagonospra nodorum.
[2] Glume blotch caused by S. nodorum.
[3] Soil borne mosaic virus.
[4] Take-all caused by Gaeumannomyces graminis.
[5] Wheat yellow mosaic virus, formerly wheat spindle streak mosaic virus.
[6] Disease on flag (uppermost) leaf: Tr = Trace; numbers = percentage leaf area diseased; S = susceptible, MR = moderately resistant, MS = moderately susceptible.
[7] 0 = no disease to 9 = severe disease.

REPRODUCE LOCALLY. *Include form number and edition date on all reproductions.* FORM APPROVED - OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)

Eldon E. Ortman

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER

3. VARIETY NAME

Goldfield

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*

Agricultural Research Programs
Purdue University
1140 Ag Administration Bldg.
West Lafayette, IN 47907-1140

5. TELEPHONE *(include area code)*

765-494-8363

6. FAX *(include area code)*

765-494-0808

7. PVPO NUMBER

9900340

8. Does the applicant own all rights to the variety? *Mark an "X" in appropriate block.* If no, please explain. [X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? [X] YES [ ] NO

If no, give name of country

10. Is the applicant the original owner? [X] YES [ ] NO *If no, please answer one of the following:*

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

[ ] YES [ ] NO If no, give name of country

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

[ ] YES [ ] NO If no, give name of country

11. Additional explanation on ownership *(if needed, use reverse for extra space)*:

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

STD-470-E (07-97) *(Destroy previous editions).*
Electronic version designed using WordPerfect InForms by USDA-AMS-IMB.

Exhibit E. Statement of Basis of Applicant's Ownership

Goldfield was developed under leadership of Dr. Herbert W. Ohm. Dr. Ohm is an employee of Purdue University which claims ownership to intellectual property developed by its faculty.